

IN THE SPECIFICATION:

1. Please amend the paragraph starting on page 27, line 6 as follows:

The reason of obtaining such stable displacement is explained. As known from Fig. 8B, the value of the middle point S of positive coercive field E_{c2} and negative coercive field E_{c1} is -30 kV/cm in the piezoelectric element 1 in driving condition 1 of the invention. Therefore, in the case of position control voltage Q1 in Fig. 8C, the position control voltage Q1 applied to the negative coercive field E_{c1} side is only a voltage smaller than the voltage of the middle point S. As compared with the conventional piezoelectric element having symmetrical hysteresis characteristic, in the case of the piezoelectric element 1 in driving condition 1 of the invention, apparently, it is driven by a voltage applied to the positive coercive field E_{c2} side. In the direction of positive coercive field E_{c2} E_{e1} , if a voltage greater than the positive coercive field E_{c2} E_{e1} is applied, it is the direction of recovery of polarization, and displacement deterioration does not take place. Thus, apparently, since the position control voltage Q1 is driven by the voltage applied to the positive coercive field E_{c2} E_{e1} side, and polarization is not disturbed, and changes of displacement are suppressed. Therefore, in the direction of negative coercive field E_{c1} , as far as a voltage corresponding to the range of middle value S and electric field zero point 0 is applied, changes of displacement can be suppressed sufficiently. In the case of driving condition 1 of the invention, since the film thickness of the piezoelectric thin film 2 is 3 μm , a voltage from 0 V to -9 V corresponds

to such stable voltage range. When a voltage of -9 V is applied, a displacement is 0.36 μm , and it is sufficiently practicable. In this direction of positive coercive field E_{c2} , a voltage more than the positive coercive field E_{c2} may be applied, and a total displacement of about 1 μm can be obtained. As far as the position control voltage Q1 is applied within this voltage range, it is not necessary to apply polarization recovery voltage Q2.

2. Please amend the paragraph starting on page 37, line 8 as follows:

In comparative element B driving condition, by applying polarization recovery voltage Q2, deterioration of displacement is improved somewhat, but since deterioration before impression of polarization recovery voltage Q2 is significant, it cannot be improved to 5% or less below the allowable limit. The piezoelectric element 55 of this comparative element B driving condition has a symmetrical hysteresis characteristic, and the negative coercive field E_{c1} and positive coercive field E_{c2} are nearly same values. When position control voltage Q1 is applied to the piezoelectric element 55 having such characteristic, a negative maximum value F is closer to the negative coercive field E_{c1} as shown in Fig. 12C, and polarization is likely to deteriorate. This deterioration of polarization is recovered by impression of polarization recovery voltage Q2. However, since fluctuations before recovery are larger than in driving condition 3 of the invention, the finally recovered displacement deterioration is a slightly larger value.